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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,405	08/15/2001	Bryan A. Gillispie	DP-303697	1033

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EXAMINER

KOEHLER, ROBERT R

ART UNIT	PAPER NUMBER
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1775

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-2

Office Action Summary	Application No. 09/930,405	Applicant(s) GILLISPIE ET AL.	
	Examiner Robert R. Koehler	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

RRK

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____. | 6) <input type="checkbox"/> Other: . |

DETAILED ACTION

Drawings

A. The drawings are objected to because the drawing sheets are not numbered correctly.

The drawing sheet numbers range from "1/12" to "6/12" and from "7/13" to "13/13." A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

B. The Examiner believes that all of the photomicrographs and two graphs (Figure 4E and Figure 5F) are color drawings.

Color photographs and color drawings are acceptable only for examination purposes unless a petition filed under 37 CFR 1.84(a)(2) is granted permitting their use as acceptable drawings. In the event that applicant wishes to use the drawings currently on file as acceptable drawings, a petition must be filed for acceptance of the color photographs or color drawings as acceptable drawings. Any such petition must be accompanied by the appropriate fee set forth in 37 CFR 1.17(h), three sets of color drawings or color photographs, as appropriate, and an amendment to the first paragraph of the brief description of the drawings section of the specification which states:

The patent or application file contains at least one drawing executed in color. Copies of this patent or patent application publication with color drawing(s) will be provided by the U.S. Patent and Trademark Office upon request and payment of the necessary fee.

Color photographs will be accepted if the conditions for accepting color drawings have been satisfied.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 3 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 3 and 13 are rejected as being vague and indefinite because each claim refers to a brazing composition comprising a composite which contains only one metal species. Claims 3 and 13 should state that the composite contains "two or more" of the metals set forth in the remainder of each claim. These claims are directed to a solid phase (for the brazing composition) which is a composite, and the specification requires that the solid phase composite should contain a combination of two or more metal powders. See lines 8 to 20 on page 8 of the specification.

2. Claims 6, 7, 12, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 contains the trademark/trade name Nocolok[®] Flux in line 2 of the claim. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is

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used to identify/describe a fluxing material manufactured by Solvay Fluor and, accordingly, the identification/description is indefinite.

Claim 7 contains the trademark/trade name Nocolok[®] Flux in line 2 of the claim. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a fluxing material manufactured by Solvay Fluor and, accordingly, the identification/description is indefinite.

Claim 12 contains the trademark/trade name Nocolok[®] Flux in line 2 of the claim. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a fluxing material manufactured by Solvay Fluor and, accordingly, the identification/description is indefinite.

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Claim 14 contains the trademark/trade name Nocelok[®] Flux in line 2 of the claim. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe a fluxing material manufactured by Solvay Fluor and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Evaluations of the level of ordinary skill in the art requires consideration of such factors as various prior art approaches, types of problems encountered in the art, rapidity with which innovations are made, sophistication of technology involved, educational background of those actively working in the field, commercial success, and failure of others.

The "person having ordinary skill" in this art has the capability of understanding the scientific and engineering principles applicable to the claimed invention. The evidence of record including the references and/or admissions are considered to reasonably reflect this level of skill.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 to 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,302,414 (Alkhimov, et al.) in view of a technical journal article entitled "Kinetic Spray Coatings" by T. H. Van Steenkiste, et al. and U.S. Patent No. 5,907,761 (Tohma, et al.).

Alkhimov, et al. teaches a cold gas-dynamic spraying method (i.e., kinetic spraying) for applying a coating to the surface of a product. The material of the product is selected from the group consisting of metals, alloys, and dielectrics. The method requires that a powder of a material selected from the group consisting of metals, alloys or their mechanical mixtures, and dielectrics is introduced into a gas flow to form the gas and powder mixture which is directed onto the surface of the product. Supersonic velocity is imparted to the gas flow, and a supersonic jet is formed with the predetermined profile with high density and a low temperature. The high-velocity flow of powder which is in the solid state has a temperature that is much lower than the melting point of the powder material. This low temperature range for the powdered material overlaps applicants' claimed temperature range during the kinetic spray coating operation. Also, the velocity of the powder particles as taught by Alkhimov, et al. (i.e., 300 to 1200 m/s) overlaps applicants' claimed particle velocity during the kinetic spray coating operation. See lines 15 to

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62 in column 8. Alkhimov, et al. also teaches numerous uses of the kinetic spray coating process, including areas such as metallurgy and the automobile industry. See line 38 in column 15 to line 13 in column 16. Alkhimov, et al. differs from the claims in that Alkhimov, et al. does not specify the metal products or metal powder compositions to be used in the kinetic spray technique.

However, the technical journal article by Van Steenkiste, et al. teaches aluminum substrates that can be kinetic spray-coated with high-velocity aluminum powder particles. Note that the experimental results obtained by Van Steenkiste, et al. are in excellent agreement with the process conditions taught by Alkhimov, et al. See section 5., "Coating thickness dependence on inlet air temperature," on page 67 of the technical journal article. Also, Tohma, et al. teaches that aluminum or aluminum alloys can be coated with powder metal compositions. Although the method taught by Tohma, et al. uses a brazing composition which includes a binder and a solvent, Tohma, et al. teaches that the brazing composition can be handled by a spraying method. See lines 50 to 57 in column 2. Tohma, et al. also teaches that the braze coating method permits one to provide various additives of powder (e.g., fluxes for brazing) as necessary into the brazing material layer as one. See lines 4 to 63 in column 3.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the teaching by Alkhimov, et al. concerning the utilization of particular metals and other ingredients in a cold gas-dynamic spraying method as suggested by the *metal substrates* (e.g., aluminum, aluminum alloys, or steel) and *sprayed powder metal compositions* taught by the Van Steenkiste, et al. journal article and by Tohma, et al. because sprayed metal powders or sprayed metal powder compositions have been demonstrated in the

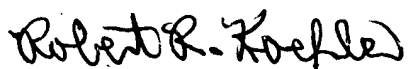
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prior art as being useful coatings for a variety of metal substrates. A person skilled in the art of kinetic-sprayed metal coatings would have been motivated to rely on the journal article by Van Steenkiste, et al. and on the Tohma, et al. patent because these publications provide specific metal powder compositions which are capable of being kinetic-sprayed onto an aluminum, aluminum alloy, or steel substrate for the purpose of obtaining a coated metal article.

Conclusion

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Robert Koehler whose telephone number is (703) 308-1974. The Examiner can normally be reached on Tuesday to Friday from 8:30 AM to 6:00 PM. The Examiner can also be reached on alternate Mondays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Deborah Jones, can be reached on (703) 308-3822. The fax phone number for this Art Unit is (703) 872-9310. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center receptionist whose telephone number is (703) 308-0661.



**ROBERT R. KOEHLER
PRIMARY EXAMINER**

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September 30, 2002